

FOULADI et al
Appl. No. 09/726,215
September 2, 2005

REMARKS/ARGUMENTS

Applicants appreciate the Examiner's indication that claims 35, 57 and 58 stand allowed. Applicants have amended their rejected independent claims to more particularly point out their claimed subject matter. For example, applicants have amended each independent claim other than allowed claims 35, 57 and 58 to further require that display list to comprise graphics commands to be executed by the graphics engine. This feature in combination distinguishes the claimed subject matter over the prior art of record. Applicants request the USPTO to reconsider and allow this case in view of the claim amendments and the following remarks.

The Examiner concedes that the applied McCormack reference "fails to disclose wherein said buffers store inline commands calling display lists stored elsewhere in said main memory." Office Action at 3. However, the Examiner contends it would have been "obvious" to modify McCormack to incorporate Dye's memory pointer technology because Dye's approach "requires no data movement thus reducing system bandwidth requirements resulting in improved system performance." Office Action at 3.

What Dye discloses is a memory and graphics controller which performs pointer-based display list video refresh operations, i.e., "pointer-based display list refresh operations to transfer video data from a memory to a video monitor." See title and col. 1, lines 20-21. Dye explains that he can "eliminate the need for a separate graphics subsystem" (col. 3, lines 6-7) by having the graphics Execution Engine:

FOULADI et al
Appl. No. 09/726,215
September 2, 2005

assemble a display refresh list comprising a plurality of pointers which reference video data in the system memory that is to be refreshed to the video monitor. The plurality of pointers reference memory areas in the system memory which store video or pixel data for respective objects that appear on the display screen. The pointers reference portions of the data on a scan line basis, and the pointers are used to read out the data on a scan line basis during screen refresh. (Col. 4, lines 7-15, emphasis added).

It appears that the function of Dye's pointers are to direct the graphics engine to access stored video data, -- that is, already-rendered pixel display data stored in memory - - for use in "refreshing" the screen. See also col. 21, line 48 and following and Figures 7 and following. Dye's display list pointer teachings seem to be directed to telling the display refresh logic and memory controllers to "go get pixel values for a given scan line stored at unified memory location XYZ and send them to the display."

What Dye does not appear to teach is the combination recited in applicants' claim 1 herein of "buffers store inline commands calling display lists comprising further graphics commands for execution by said graphics hardware...." (emphasis added). Such lists of display commands could, for example, include additional commands to instruct the graphics engine to transform and rasterize polygons to create new display data for storage in a frame buffer memory and eventual refresh/display. Applicants' buffered commands are thus very different from the buffered information that Dye (and some of the other prior art of record) disclose for use by display refresh logic, memory controller logic, etc. In particular, Dye does not appear to teach or suggest applicants' technique of storing graphics commands for consumption by the graphics hardware in a memory

FOULADI et al
Appl. No. 09/726,215
September 2, 2005

buffer, wherein the graphics commands can include inline commands that call display lists comprising further graphics commands for execution by the graphics engine. As applicants' specification discloses, this feature in the context of applicants' illustrative non-limiting exemplary implementation improves control flexibility by providing a subroutine-like capability, and also allowing graphics command reuse with the associated ability to compress the length of graphics commands the processor sends to the graphics engine.

Applicants note that Dye is long, complicated reference, so it is possible that there could be some additional teachings disclosed somewhere in his 68 columns of specification that the Examiner might choose to rely on. However, it appears that the Examiner is currently relying on Dye's main teaching of video data refresh display lists. See for example Office Action at page 3 citing col. 11, col. 22 and col. 23 of Dye. If, after further review, the Examiner believes that Dye contains additional teachings that should be addressed, applicants request the Examiner to point out those teachings in a further communication (e.g., by telephone) so applicants can address them.

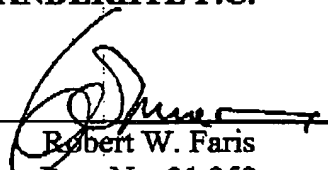
All outstanding issues have been addressed and this application is in condition for allowance. Should any minor issues remain outstanding, the Examiner should contact the undersigned at the telephone number listed below so they can be resolved expeditiously without need of a further written action.

FOULADI et al
Appl. No. 09/726,215
September 2, 2005

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: _____


Robert W. Faris
Reg. No. 31,352

RWF:ejs
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100